Report of the Montgomery County Green Economy Task Force





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Isiah Leggett County Executive

Timothy L. Firestine Chief Administrative Officer

March 25, 2010

Dear County Executive Leggett:

On behalf of 29 dedicated citizens of Montgomery County who served on the Green Economy Task Force, I am very pleased to present the final report of the Task Force. We are grateful that you have given us the opportunity to serve on the Task Force, and we very much hope that the ideas and recommendations contained in this report will enable the County to stake out a significant leadership role in the emerging green economy.

This report presents 19 recommendations for your consideration and review. The recommendations are designed to create opportunities in the County for new and existing green businesses, spur innovation, increase employment, and help lead the way in developing the next generation of green technologies. The recommendations are grouped under five major headings, as follows:

- A. What initiatives can help Montgomery County grow its green economy? (Recommendations A-1 to A-7);
- B. What financial assistance can Montgomery County provide or encourage to help the green economy grow? (Recommendations B-1 to B-3);
- C. How can the workforce be trained for the green economy? (Recommendations C-1 and C-2);
- D. What steps should be taken to build public support for green economic activity? (Recommendations D-1 to D-4); and
- E. How should the growth of the green economy be measured? (Recommendations E-1 to E-3).

We are very grateful for the strong support that we have given by the Department of Economic Development and its Director, Steve Silverman, and by the Department of Environmental Protection and its Director, Bob Hoyt. We also wish to thank Sarah Miller, Eric Coffman and Corrine Rothblum for the exceptional staff support that we have received, and also our consultants, John Spears, Jill Sorenson and Phillip Singerman. And I, in particular, would like to thank the Ex-Officio members for their support, as well as several of my colleagues on the Task Force who dedicated a great deal of extra time to the project: Keith Haller, Jean-Luc Park, George Payne, Jeff Roman, Gary Skulnik, Harry Wingo, Renee Winsky, and Woody Woodroof.

Should the County desire further advice or counsel on the ideas presented in this report, we hope that you will feel free to call on us again – either collectively, or on an individual basis. It would be our pleasure to offer any additional help or assistance that we may be able to provide.

Sincerely,

Dick Wegman

Dick Wegman

Introduction

Montgomery County is laying the foundation for a green economic development initiative to promote the creation, expansion, attraction and retention of green businesses that develop and supply environmentally sustainable technologies, products and services. Montgomery County will draw upon its existing strengths to create a green industry cluster that will generate economic, environmental and social value for the County's businesses, residents and the region as we combat climate change and protect natural resources and ecosystems worldwide.

In early 2009, the County Executive commissioned the 29-member Green Economy Task Force for the purpose of charting "a bold new course for Montgomery County focused on creating opportunities for new and existing 'green' businesses, spurring innovation, increasing employment, and developing next generation technologies."

This report documents the Montgomery County Green Economy Task Force's recommendations for growing a sustainable economy in the 21st century. It covers a variety of topics, including raising substantial capital for new green technologies, spurring innovation through competition, simplifying bureaucracy for green businesses and building a vibrant, local food system.

Other jurisdictions have set ambitious goals for green job growth, including Vancouver, BC, which hopes to add 20,000 by 2020 and Silicon Valley, which aims to add 25,000 clean-tech jobs within 15 years. The Task Force hopes and expects that if these recommendations are implemented, something of a similar nature might be achievable in Montgomery County. In addition to jobs, which are sorely needed in these difficult economic times, Montgomery County should expect to see increased revenue and innovation, while enjoying a decrease in greenhouse gas emissions and natural resource consumption.

Recommendations

Initiatives

- A-1) Issue an Executive Order establishing Montgomery County's commitment to green economic development
- A-2) Develop a package of fast-track pilot projects and demonstration opportunities for local green technology companies
- A-3) Amend the zoning code to enable the growth of the green economy
- A-4) Create a Green Business Zone
- A-5) Create a small farm incubator
- A-6) Position Montgomery County as an early adopter of smart grid technology
- A-7) Encourage businesses to achieve Montgomery County Green Certification

Financial Assistance

- B-1) Create a Green Enterprise Investment Board
- B-2) Enhance DED's resources for green technology programs
- B-3) Encourage private investment in green technology through tax incentives

Workforce Training

- C-1) Expand "green collar" education/training programs at Montgomery County Public Schools, 'Montgomery College, Universities at Shady Grove, and other professional training centers
- C-2) Expand pre-employment literacy training programs

Building Public Support

- D-1) Modify existing County marketing and outreach activities to place greater emphasis on green activities
- D-2) Establish a green marketing council to brand Montgomery as "green" and develop associated marketing materials
- D-3) Launch an aggressive earned media campaign
- D-4) Take advantage of the County's strategic location

Measuring Growth

- E-1) Identify the County's existing green economy inventory
- E-2) Identify existing opportunities available to green businesses
- E-3) Utilize the triple bottom line in measuring the growth of the County's green economy

Overview of the green economy in Montgomery County, MD

Montgomery County is laying the foundation for a new green economy, which will create, expand and attract businesses that provide environmentally sustainable products, green technologies and services. With its history of progressive policies, engaged residents and innovative entrepreneurs, Montgomery County can nurture its nascent green industries and transform its entire economy into one of the greenest and most successful in the region—and beyond.

This report documents the Montgomery County Green Economy Task Force's recommendations for growing a sustainable economy in the 21st century. It covers a variety of topics, including raising substantial capital for new green technologies, spurring innovation through competition, simplifying bureaucracy for green businesses and building a vibrant, local food system.

These are not small recommendations that can be done quickly by one department or agency. They involve new partnerships, substantial private investments, advocacy at multiple levels of government and a county-wide commitment to a new way of doing business. In some cases, the inspiration for these recommendations comes from other jurisdictions like Silicon Valley, Austin and Toronto who are leaders in sustainable development. The Task Force has examined these programs and tailored some of them to fit Montgomery County's strategic advantages.

Other jurisdictions have set ambitious goals for green job growth, including Vancouver, BC, which hopes to add 20,000 by 2020 and Silicon Valley, which aims to add 25,000 clean-tech jobs within 15 years. The Task Force hopes and expects that if the recommendations are implemented, something of a similar nature might be achievable in Montgomery County.

But, in addition to new jobs, the Task Force recommends that the success of the green economy should not be determined by usual measures like tax receipts or new construction starts. Instead, leaders should analyze the County's triple bottom line. Evaluating success using a "triple bottom line" approach means that we no longer look only at financial health, but we are now obligated to consider economic prosperity, environmental quality and social justice equally, with each policy decision we make.

By implementing the recommendations outlined in this report, and committing to a triple bottom line approach for evaluation, the potential for Montgomery County's green economy is only limited by our researchers' and entrepreneurs' imaginations. The Task Force is confident that Montgomery County will become a green economic engine that supports profitable business ventures while contributing to a sustainable society.

Charge to the Green Economy Task Force

In early 2009, the County Executive commissioned the 29-member Green Economy Task Force for the purpose of charting "a bold new course for Montgomery County focused on creating opportunities for new and existing 'green' businesses, spurring innovation, increasing employment, and developing next generation technologies."

¹ "Vancouver 2020 – A Bright Green Future". David R. Boyd & The Greenest City Action Team. 2009

The Task Force was asked to build upon several strengths inherent in Montgomery County: 1) a successful track record in promoting the growth of the local biotech industry; 2) progressive environmental policies; and 3) existing environmental and economic development initiatives. Examples of key policies include green building legislation, which requires both privately-constructed buildings and new County-owned buildings to achieve certain LEED² standards, and the Home Energy Loan Program, a new financing mechanism that allows residents to make energy efficient home improvements that are repaid through property assessments. In addition to these policies, key initiatives like the Sustainability Working Group,³ and important partnerships with organizations like the Maryland Clean Energy Center,⁴ informed the Task Force's work.

The County Executive appointed Dick Wegman, an environmental attorney with broad experience in federal, state and local environmental issues, as the Task Force chairman. The Task Force deliberated for ten months to develop the recommendations outlined in this report. The schedule included six full Task Force meetings and dozens of smaller subcommittee meetings. The subcommittees were created to target broad categories of the green economy, including: Agriculture, Finance, Innovation, Land Use, Policy/Regulation, Promotion and Workforce. The Task Force's consultants, Sustainable Design Group, provided the subcommittees with topical background information including relevant green initiatives in other jurisdictions. Several of these programs are referenced in the final recommendations.

The purpose of this report is to provide the Leggett Administration with expert guidance and input regarding the investments, policies and strategic partnerships that will nurture Montgomery County's nascent green economy. The ultimate goal is to increase Montgomery County's triple bottom line by generating economic, environmental and social value for local businesses, residents and the region.

Lessons from our biotech history

Beginning a quarter of a century ago, Montgomery County embarked on a major biotechnology initiative designed to stimulate the local economy by taking advantage of its proximity to major national medical research facilities, including the National Institutes of Health, U.S. Army Walter Reed Medical Center, Bethesda Naval Medical Center and related entities such as the Food and Drug Administration. To convert these research assets into commercial opportunities, Montgomery County pursued the following initiatives:

 Purchased close to 300 acres for the world-renowned Shady Grove Life Sciences Center, whose land value today approximates \$150 million;

² The Leadership in Energy and Environmental Design (LEED) rating system is a third party certification program and the nationally accepted benchmark for high performance green buildings.

³ In January 2009, Montgomery County issued a ground-breaking Climate Protection Plan, prepared by the legislatively created Sustainability Working Group. The Sustainability Working Group's recommendations will create a demand for green companies, through green building laws, greenhouse gas reduction mandates and other quality of life recommendations.

⁴ The Maryland Clean Energy Center, headquartered at the Universities at Shady Grove, was created by the State legislature and the governor in 2008 to develop clean technology development and clean tech jobs in the state. The Center's mission is to provide a coordinated approach to building a strong, clean energy economy in Maryland through technology commercialization, business incubation and workforce development and training.

- Coordinated the donation of 85 acres of private land to the University of Maryland and The Johns Hopkins University for their academic campuses and for the Center for Advanced Research in Biotechnology (CARB);
- Infused over \$17 million in infrastructure for the Life Sciences Center and for Hopkins' Belward Campus;
- Constructed Hopkins' first academic building (a \$12 million capital outlay), and financed the construction of CARB;
- Developed a life sciences business incubation strategy, which began with the \$10 million Maryland Technology Development Center, and now includes a total of five incubators; and
- Advocated at the State level for major capital investments in the University of Maryland, Johns Hopkins and CARB by continually highlighting these assets in the County's state legislative priorities.

The deeper pockets of the state, through financing agencies like MEDCO and TEDCO, and the Sunny Day Fund, and the attraction of out of state venture capital, were also needed to grow companies such as MedImmune and Human Genome Sciences.

As a result of this 25 year effort, Montgomery County's biosciences industry now generates combined annual revenues of \$2.36 billion, employs more than 9,200 private sector employees, and is often ranked as one of the top ten biotechnology clusters in the nation.⁵

Strategic advantages for growing the green economy

The Green Economy Task Force believes that even though there are significant differences between the biotech industry and the green technology industry, by implementing certain strategies outlined in this report, the probability of growing a robust green economy in Montgomery County is quite high.

The County's innate strengths, which promoted the growth of biotech, will again be the bedrock for the new, green economy. These strengths include an engaged private sector, bold political leadership, proximity to federal agencies, partnerships with academia and a highly-educated workforce. For example, the local government has a history of progressive leadership, which has already made significant strides in terms of green policies and sustainability. A recent study by the National Association of Counties, entitled "Local Leaders in Sustainability," described Montgomery County as "a progressive leader on green building and sustainability. Montgomery County will certainly be a county to watch as recent legislation takes effect and local policymakers go to new and innovative lengths to promote green buildings in their communities."

Additionally, Montgomery County has a highly engaged professional community. It has experience building public-private partnerships and facilitating communication and collaboration between citizens, government, industry, researchers and academia. These professionals include employees at several federal installations related to energy, climate change and other green economy issues,

⁵ Maryland-National Capital Park and Planning Commission (M-NCPPC).

⁶ NACO – Local Leaders in Sustainability – Green Counties. Brooks Rainwater & Cooper Martine.

including the National Institute of Standards and Technology, the National Oceanic and Atmospheric Administration, and the Department of Energy. Because of these federal partners, Montgomery County is particularly well positioned to take advantage of the new federal and state support for strategies that utilize sustainability as a driver of economic development. And, unlike the biotech experience, there are existing large corporations in the County that can provide sources of technology as well as generate demand for green goods and services. Local sustainability strategies will also serve as demand generators.

Presently, Montgomery County's companies and businesses benefit from access to a well-educated and highly skilled workforce of 500,000 people. Nearly 60 percent of the county's labor force holds a bachelor's degree and 34 percent have earned a graduate or professional degree⁷, making Montgomery County an advantageous location for new and expanding green businesses.

Finally, Montgomery County has over 93,000 acres of viable farmland, which includes 577 farms and 350 horticulture enterprises, producing \$251 million annually and employing 10,000 people.

Combined, these strategic advantages give us an opportunity to become a leading jurisdiction in the green economy.

Defining the green economy

The green economy means different things to different people. With respect to many of the recommendations contained in this report, regulators or county officials in carrying out their responsibilities may find the Governor's Workforce Investment Board (GWIB) definition helpful. The GWIB treats a company as "green" if it is "directly engaged in the development, manufacture, sale and distribution, installation, and application of products and services that promote energy security and/or protects our environment." However, this approach would not be appropriate for some of the other recommendations in this report. For example, the Task Force recommends encouraging the consumption of locally produced products and food; clearly, in this area, a different metric would be needed. In other instances, the construction or operation of a LEED-certified building may qualify as "green," and the GWIB test would not fit here either.

What is the same are the basic principles that underlie all of the recommendations in this report: (1) dependence on carbon-based sources of energy is rapidly becoming economically and environmentally unsustainable and (2) Montgomery County can play a major leadership role in finding new ways to meet these challenges. Thus, after considering whether a single definition of the green economy should be adopted, in the end the Task Force decided that a one-size-fits-all approach would not be useful.

⁷ Research & Technology Center – Montgomery County Planning Department.

⁸ www.mdworkforce.com

Benchmarks

At this time, there is no national definition of what constitutes the "green economy," so it is difficult to benchmark and monitor Montgomery County's progress against other jurisdictions. For example, a contractor may build green homes, an HVAC contractor may specialize in energy efficient equipment, or an architect may design only LEED-rated buildings. However, common data sources like NAICS Codes are of limited use, because they don't have a special green designation—every architect would fall under the same code. Similarly, there is no single source of data on the green industry within Montgomery County. For this report, the consultants used a variety of data sources, including industry associations serving specific technology sectors and consumer guides.

According to the consultants' preliminary estimates, there are over 200 businesses in Montgomery County that contribute to the green economy. Montgomery County's green industry can be divided into several categories: Energy Companies, Products and Services, Federal Installations, Finance and Venture Capital, and Private Green Technology R&D. Additionally, the Task Force acknowledges the importance of existing companies that are implementing sustainable business practices, regardless of their industry, because they create significant demand for local green products. The following are some examples of existing businesses and organizations already impacting Montgomery County's green economy:

Energy Companies: Preliminary research shows 11 companies that provide energy-related products and services in Montgomery County (not counting energy auditors). One of the most successful companies is Standard Solar, Inc., which was started in 2004, and currently employs more than 60 people. Not only was Standard Solar involved in one of the east coast's largest solar electric system installations for the US Department of Energy, the company was recently part of the region's largest Power Purchase Agreements in Upper Marlboro, MD.

Green Products and Services: The available data indicates that the largest sector of green business in Montgomery County is green products/services. These services include everything from green cleaning companies to energy auditors and consultants. Additionally, there are an estimated 410 LEED Accredited Professionals working in Montgomery County. An example of a green product provider is Amicus Green Building Center, in Kensington, MD, which offers a range of green building products and supplies. In addition to providing green products, Amicus follows triple bottom line principles in its operations.

Federal Installations: There are three federal installations in Montgomery County whose work supports the advancement of green technology. For example, the National Institute of Standards and Technology (NIST), in Gaithersburg, is committed to studying and solving issues associated with a variety of green technology standards, including high performance buildings and sustainable infrastructure materials.

Finance and Venture Capital: Investors are an important component to a healthy green industry, because they help companies bring their technologies to market. Calvert Investments, an environmentally and socially responsible investment firm in Bethesda, manages \$14 billion in assets.

Private Green Technology R&D: Montgomery County is home to several large corporations that are diversifying their businesses to include green technology. One example is Lockheed Martin, the country's largest defense contractor, which is now investing in smart grid R&D.

A. What initiatives can help Montgomery County grow its green economy?

A-1) Issue an Executive Order establishing Montgomery County's commitment to green economic development

The County Executive should issue an Executive Order establishing Montgomery County's leadership role in the green economy. The statement should be coordinated with a broad coalition of business leaders and representatives from all local government agencies, including County Council and Park & Planning.

A cornerstone in this announcement will be the retooling of certain local government processes to enhance green economic development. These improvements will demonstrate the County's commitment to the growth of the green economy, and will encourage participation and commitments from the private sector.

The Executive Order should:

- Authorize the creation of a "green business champion" in the Department of Economic
 Development who will help green businesses with site selection, permitting and planning, and
 will facilitate access to relevant information, technical and financial resources.
- Modify the existing "green-tape" review⁹ process to include qualifying green businesses, and direct the Departments of Economic Development, Environmental Protection and Procurement to examine the best way to accelerate the approval of new, locally produced green technologies.
- Authorize the creation of an on-line "one-stop-shop" for green businesses, which will includes information about required permits, licenses, certifications, tax information, financing programs, etc.
- Direct the Department of Economic Development to enhance the availability of financial resources and incubator space for green technology entrepreneurs.
- Authorize a feasibility study to determine how the County can transition its procurement process from a traditional supply chain to a green supply chain, with buying preferences for companies that are certified through the Green Business Certification Program.¹⁰

Model Jurisdiction:

Boston, MA – the Boston Redevelopment Authority's GreenTech Initiative¹¹ was created to assist businesses become more sustainable by offering technical, hands-on assistance that is affordable, actionable and practical.

⁹ During the green tape process a caseworker assists an applicant with filing requirements, regulatory reviews and inspections. Technical help is provided by engineers, analysts, inspectors and managers.

¹⁰ Please see recommendation A-7.

www.bostonredevelopmentauthority.org/EconDev/econdev.asp#20

Financial Resources:

This recommendation will not impact the County's operating budget, because it can be accomplished with existing staff. The addition of the Web site information described above can be incorporated into DED's Web site redesign.

A-2) Develop a package of fast-track pilot projects and demonstration opportunities for local green technology companies

The demonstration of a new green technology is essential to creating a market demand. Demonstrations and deployments on County properties will strengthen start-up companies' profiles by identifying technologies with the potential for long-term, productive growth.

Montgomery County controls over 5,000,000 square feet of facilities, properties, and other assets like streetlights and the agricultural reserve. This provides entrepreneurs with a variety of high-profile opportunities.

It is not the purpose of this report to recommend certain green industry sectors at the exclusion of others--the green economy is too broad and constantly evolving. Instead, based on the research done to date, there seem to be several areas in which the County has a competitive advantage that could propel it into a dominant position in the next few years. Examples of pilot procurement projects that show some signs of progress are:

Photovoltaic Solar Procurement:

Photovoltaic solar technology is available, ready, and adaptable for virtually every building type. Typically, a solar power purchase agreement (SPPA) is the most viable procurement mechanism for a local government. The SPPA allows the vendor to claim generous federal tax credits that will be in place through 2016, allows project costs to be amortized over several years, provides a strong incentive to the operator to maximize production, and relieves the County government of the long-term maintenance. (The use of SPPAs were a key recommendation of the Sustainability Working Group.)

Currently, Montgomery County Public Schools (MCPS) is hosting production-scale solar photovoltaic (PV) systems on four schools, and will soon increase that number to eight. When these installations are complete, MCPS' total solar PV capacity will exceed 1 megawatt, and will provide these schools with 20-40% of their electricity. The County plans to install a PV system on its Solid Waste Transfer Station, as well. Additionally, the County is currently developing a request for proposals (RFP) for firms to design solutions that allow solar installations on a wide array of County facilities, not just those with flat roofs.

Small Wind Energy System Demonstration:

The County is exploring the opportunity to issue an RFP for a pilot wind turbine on the Montgomery County Correctional Facility in Clarksburg. The intent of this project is to demonstrate an effective wind energy deployment, as well as the importance of a model wind ordinance. The County will use the results of this pilot project to evaluate other sites, and new wind technologies and financial mechanisms for future deployments throughout the community.

Demonstration of Biofuels:

Fuels derived from waste plant material, agricultural activities, animal waste and other biological sources are collectively known as biofuels. The County should identify properties in partnership with the Maryland National Park and Planning Commission that could be competitively leased for research or to grow biomass supplies. In addition, the County should explore the feasibility of housing biofuel processing facilities that would use sustainable sources of biomass, such as waste vegetable oil or low-impact biocrops.

Demonstration of energy retrofits:

In coordination with the Home Energy Loan Program (HELP), the County should designate specific homes in neighborhoods throughout the County to serve as on-line demonstrations for full-scale energy retrofits. Based on a similar demonstration project at the Oak Ridge National Laboratory in Tennessee, the County should put the results of the retrofit work on its website to educate homeowners about the benefits of energy retrofits over time, and to stimulate the public's interest. 12

In addition to home demonstrations, the County should designate one or more of its facilities as a demonstration space for office or commercial retrofits. The retrofit results should be published on the County's web-site, and staff could provide tours for private building owners interested in retrofitting their buildings.

Integration of storm water mitigation and retention into County facilities:

As part of the implementation of the County's Municipal Separate Storm Sewer System (MS-4) permit, the County will retrofit approximately 5,200 acres of impervious surface with storm water treatment facilities. This MS-4 permitting plan is one of the most rigorous in the country, and will increase the local demand for green jobs, products and services, including native plant materials and rainscapes training. The County will evaluate public schools, County-owned properties and roads for the implementation of treatment facilities. The use of environmental site design, which mimics natural hydrology and allows water to infiltrate into the ground at the source, will be integrated into building upgrades or other maintenance activities. The integration of storm water treatment facilities will require a broad range of skill sets, from engineering to construction to landscaping, which will complement the County's diverse workforce.¹³ The Department of Environmental Protection anticipates the completion of several thousand projects over the next five years.

In order for local companies to take full advantage of this opportunity over the next several years (and any future environmental regulations) the Departments of Economic Development, Environmental Protection and Procurement should work with businesses to facilitate the approval of new green technologies and products approved for County use.

¹² "ORNL 'deep retrofits' can cut home energy bills in half" http://www.ornl.gov/info/press_releases/get_press_release.cfm?ReleaseNumber=mr20091125-00

¹³ To ensure that unemployed workers are matched with the appropriate jobs, the County must ensure that preemployment literacy training is available. Please see recommendation C-2 for additional information.

Model Programs:

Envion Waste to Oil Generator Pilot: In 2009, Montgomery County engaged in a cooperative effort with Envion, which deploys technologies that convert solid waste into "oil." Under this pilot, Envion agreed to site its facility at the County's Division of Solid Waste Services Transfer State, at no cost to the County. The company will process products for several months as a proof of concept effort. The pilot facility can accommodate 6,000 tons of plastics per year, which is smaller than the full production model which will handle 10,000 tons.

Financial Impacts:

Financial impacts will be dependent on the specific project. For example, in the case of solar purchase power agreements, the County would lower its costs almost immediately.

Partnerships:

- Maryland Energy Administration
- Maryland Clean Energy Center
- Federal partners
- Universities at Shady Grove
- County Agencies, including Montgomery College and MNCPPC
- Tech Council of Maryland

Implementation Steps:

- 1. Identify viable County facilities and properties
- 2. Establish a process for selecting demonstration/pilot proposals
- 3. Develop and issue RFPs

A-3) Amend the zoning code to enable the growth of the green economy

The Department of Planning is currently in the process of conducting a comprehensive rewrite of the Montgomery County Zoning Code, which will be drafted during 2010 and 2011. The Zoning Advisory Panel will hold monthly meetings through March 2010. The relevant County departments should be actively engaged in these discussions to ensure that the new Zoning Code enables and facilitates the growth of the green economy.

As part of Montgomery County's zoning code re-write project, the County should advocate for zoning criteria that:

- Allow the "by-right" installation of renewable energy components or other green technologies
 consistent with community and economic development needs. "By-right" means that if a
 property owner meets certain criteria, she could install the appropriate renewable energy
 components on her property without being subject to the special exception process.
- Include incentives for renewable energy use. Examples include increased density and/or reduced developer impact fees.
- Promote the growth of the local agricultural industry, by allowing structures like abattoirs, horticultural nurseries, greenhouses, agricultural and milk processing facilities, grain elevators for non feed grade grain, and composting facilities.

Model Ordinances:

- Maryland Model Wind Energy Ordinance (still in draft) http://www.energy.state.md.us/documents/DraftModelSmallWindOrdinanceforMD_000.pdf
- Oregon Department of Energy Model Ordinance for Green Projects: http://www.oregon.gov/ENERGY/SITING/docs/ModelEnergyOrdinance.pdf
- The American Planning Association's February 2008 publication 'Planning and Zoning for Renewable Energy' contains a number of citations for model ordinances: http://www.planning.org/pas/infopackets/subscribers/pdf/EIP-18.pdf

Partnerships:

- Department of Planning, Zoning Code Rewrite Advisory Panel
- Planning Board
- County Council
- Department of Economic Development

Implementation:

Perform an assessment of where zoning/land use barriers exist in terms of using renewable energy. This assessment will better inform the zoning code rewrite process.

A-4) Create a Green Business Zone

The Green Business Zone will be a unique area of coordinated eco-business activity. The dual purpose of the zone is to: 1) encourage (but not require) green companies to co-locate or cluster together; and 2) use the green economy as a tool for redeveloping economically challenged communities.

With help from Montgomery County, the companies in the Green Business Zone will join together to implement sustainable business practices that will improve their triple bottom lines. This program is important to the local green economy because, ultimately, the operational savings derived from participation in the Green Business Zone will enable companies to reinvest these funds and grow new green jobs.

Because the triple bottom line approach includes social responsibility, the first Green Business Zone should be located in an existing Enterprise Zone. The Enterprise Zone program is a revitalization initiative established by the Maryland General Assembly that provides state and local tax incentives to eligible businesses within a designated area. There are several tax incentives ¹⁴ already available in the Enterprise Zones, which zone administrators manage. By overlaying the Green Business Zone concept on an Enterprise Zone, the existing administrators would simply broaden their expertise to include information about green tax incentives at the local, state and federal levels. DED staff should support the zone administrator(s) by providing additional information and updates regarding green grants and loan programs for which qualified Green Business Zone members could apply. Companies located within the Green Business Zone should be encouraged to participate in the Green Business Certification Program. ¹⁵

Despite the supply of existing incentives, in order to encourage green businesses to locate in the Green Business Zone, Montgomery County will need to provide several new green-centric elements, which will benefit local green businesses:

- 1. Property tax incentives that encourage green buildings within the Green Business Zone. First, the County should amend its Green Building Property Tax Credit to include LEED Commercial Interiors, which will encourage companies to use sustainable design features in existing spaces within the Green Business Zone, even if they cannot control the "greenness" of the overall building structure. Second, because the existing Green Building Property Tax Credit is oversubscribed, the County should create an additional "cap" for use exclusively in the Green Business Zone, so that the resource will likely be available for those constituents.
- 2. As an interim measure until the zoning code is modified (see recommendation A-3), renewable energy and other green technology components should be "by right" in the Green Business Zone. For example, if a group of local businesses in Wheaton were to install a small wind energy system on their adjoining properties, they would go through an arduous and time-consuming special exception process. Delays and costs associated with the current process could jeopardize these projects. To rectify the situation, the County should work with its MNCPPC partners to establish clear standards for the deployment of wind technologies and other renewable energy sources within the Green Business Zone.

¹⁴ Tax credits include: real property, personal property, employee tax credits and enhanced job creation tax credits.

¹⁵ Please see recommendation A-7.

- 3. Green Purchasing Alliances. Montgomery County should coordinate a green purchasing alliance for members of the Green Business Zone. Modeled after traditional purchasing alliances, in which businesses with common needs work together to secure large contracts with more favorable pricing, and inspired by the Clinton Climate Initiative's Purchasing Alliance Program, ¹⁶ this feature program will allow Green Business Zone companies to access energy saving technologies and services for their retro-fits at very competitive or reduced rates.
- 4. *Transportation.* The County should offer special Ride-On savings for employees of green companies within the Green Business Zone.
- 5. Sustainable Economic Development. The County should encourage grass-roots sustainability initiatives within the Green Business Zone, similar to the existing Bethesda Green ¹⁷ organization. Using Bethesda Green as a model, but building on the unique attributes and characteristics of each community, the initiative should leverage existing assets in each Green Business Zone, and make connections and partnerships between companies, residents and governmental organizations that are focused on sustainability. The County can support these initiatives by providing matching grants to assist with green zone projects like eco-audits, or a feasibility study on reusing waste in the zone. In addition, the Bethesda Green incubator model could be replicated in the various Green Business Zones in order to expand the number of green entrepreneurs in some of the County's most challenged communities.
- 6. *Procurement Preference.* The County should provide bonus points for companies within the Green Business Zone that bid on County contracts.
- 7. *Green Business Certification.* The County should wave the Green Business Certification application fee for companies within the Green Business Zone.

Model Jurisdictions:

Toronto, ON – Partners in Project Green: A Pearson Eco-Business Zone: www.partnersinprojectgreen.com

The mission of Partners in Project Green is to create an "internationally recognized community known for its competitive, high performance and eco-friendly business climate." A joint initiative started by the Greater Toronto Airport Authority and the Toronto Region Conservation Authority, the zone is 112 hectares of industrial and commercial property, with 355,000 employees. Programs include eco-efficiency, green purchasing and transportation, among others.

Kansas City Green Impact Zone:

http://www.marc.org/greenimpactzone/#

Kansas City's Green Impact Zone is a \$50M project designed to turn a blighted 150 block urban core into a model of sustainable economic development. Elements include targeted investments in weatherization and energy efficiency for businesses, and applying for federal grants for smart-grid and workforce training.

¹⁶ http://www.partnersinprojectgreen.com/solutions/green-purchasing-alliance.

¹⁷ The mission of Bethesda Green is to be a catalyst for sustainable economic growth and living by supporting the local economy, creating a healthier community and educating businesses and residents. More information can be found at www.bethesdagreen.org.

Strategic Advantages:

In addition to the Enterprise Zone tax credits mentioned previously, the advantage of using an existing Enterprise Zone as the foundation for the Green Business Zone includes the "green tape" program, in which businesses are granted fast-track permitting status.

Implementation:

- 1. Executive Order designating a Green Business Zone
- DED and DEP meet with the existing Enterprise Zone administrator to discuss the types of green incentives currently available
- 3. DED and Department of Finance draft legislation amending the existing green building tax credit program
- 4. DED, Office of Procurement and local businesses develop the Green Purchasing Alliance concept
- 5. DED and Department of Transportation develop the policies associated with the Ride-On savings program

Resources and Financial Impacts:

- DED should work with the Finance Department to determine the fiscal impacts of the additional green building tax credits and the transportation incentives.
- DED should work with the Office of Management and Budget to determine the funding source for the community grants.
- The zoning change, green purchasing alliance and other administrative changes due to the Green Business Zone designation will not have significant financial impacts.

A-5) Create a small farm incubator

Supporting the growth of local organic farms is the cornerstone of a vibrant local economy and a healthy environment. Locally grown organic products satisfy two important goals: 1) reducing the harmful effects of pesticides; and 2) reducing greenhouse gas emissions and the dependence on fossil fuels. According to a University of Michigan study, 40 percent of the climate-changing fossil fuels used in industrial food production are attributed to the production of fertilizers and pesticides. This is before the 1,200-1,500 miles the average piece of packaged produce travels to a consumer.

In addition to the environmental benefits of growing local organic produce, the positive economic impacts are even more significant. On-farm sales let farmers "recapture ninety-two cents of a consumer's food dollar that now typically winds up in the pockets of processors, middlemen, and retailers." ²⁰

The D.C. metropolitan region has a huge unmet demand for locally grown produce and products.²¹ This includes Community Supported Agriculture (CSA) programs, native plants, Victory Garden plants, food for restaurants, "truck farms" supplying the existing network of farmers markets, plants for community gardens, and the ability for growers to create value-added products. A recent Baltimore Sun article confirmed that the demand for local products outweighs the supply, and that buying local products is even more important to some consumers than buying organic products.²²

Montgomery County's agricultural economic potential will not be realized unless entrepreneurial farmers are given access to land, equipment, training and marketing. This scenario is nearly identical to the development of other industries in the region, including the County's early days of biotechnology.

One solution to growing the County's agricultural cluster to meet the current demand is to use what has worked so successfully already—the County's award-winning business incubator network.²³ At present, the County manages five business incubators to assist local entrepreneurs. The incubator network can evolve to meet the needs of the green economy by going outside of traditional labs and office space, and onto the farm.

¹⁸ Montgomery County's Climate Protection Plan recommends expanding the production of locally grown produce and products as a way to reduce green house gas emissions.

¹⁹ Heller, Martin C., and Gregory A. Keoleian. "Life Cycle-Based Sustainability Indicators for Assessment of the U.S. Food System." Ann Arbor, MI: Center for Sustainable Systems, University of Michigan, 2000: 42.

²⁰ Pollan, Michael "The Omnivore's Dilemma." Penguin Press, NYC, 2006. p. 242

²¹ 2007 Policy Choices Survey by the University of Baltimore http://scpp.ubalt.edu/pdfs/SCPP_Fall_07_12607. pdf

²² http://www.baltimoresun.com/entertainment/dining/bal-te.fo.local09jul09,0,4752289.story

²³ An incubator is a facility or program designed to help entrepreneurs succeed by providing targeted support, networking, services/equipment and other relevant programs (payroll, government contracting, intellectual property, etc.).

Model Programs:

The Intervale Center – Burlington, VT www.intervale.org

Intervale is a 350-acre, not-for-profit farm incubator that provides organic produce for 500 households in Burlington, VT. There are 12 small farms operating at the Intervale, as well as 150 community garden plots. Intervale also provides low-income households with access to food, and recycles 30,000 tons of waste each year to make compost

There are three levels of farms at Intervale:

- Incubator Farms are the newest farms, and receive business planning support, mentoring and reduced prices for land and equipment;
- Enterprise Farms have operated for at least three years; and
- Mentor Farms are mature farms who have been operating in the Intervale for at least five years and take on the role of mentoring incubator farms.

Montgomery County's Strategic Advantage:

Montgomery County's farm incubator will have a high percentage of success, because it is the only county in the region that has both dense urban areas with high, unmet demand for local produce and enough agricultural land to satisfy that demand—made possible through the nationally recognized Agricultural Reserve.²⁴ The incubator farms will build on the existing local Farmers Market infrastructure, and benefit from educational opportunities associated with the University of Maryland—a land grant university.

Initially, the incubator will also benefit from a strong market from local organizations, like food banks, which are presently in search of local growers with the capacity to produce tens of thousands of dollars worth of vegetables each year.²⁵ In order for the incubator to be as successful as possible, the County will need to be proactive in connecting this existing demand with the incubator's new supply.

Implementation:

The farm incubator would start as a three-party partnership between the County government, Park & Planning and an existing non-profit. Park & Planning would provide the land. The County would provide a staff person, who would coordinate grant applications (USDA, philanthropic grants, etc.), provide grant administration services to ensure compliance, assist farmers with licensing requirements for organic certification, added-value production permits and other regulatory issues, and manage any capital projects on the property. The non-profit component would run the day-to-day operations of the incubator, assisting farmers with marketing and sales opportunities and outreach/community activities.

²⁴ Montgomery County's Agricultural Reserve is made up of 93,000 acres, half of which is preserved through transfer of development rights and easement purchase initiatives.

²⁵ According to Red Wiggler Farm's data.

In addition, the non-profit would ensure that the incubator is run according to triple-bottom line business practices:

- Economic farms are run in a way that maximize profits while minimizing risk
- Environmental all participants must work towards USDA Organic Certification, and sell the majority of their products to local consumers
- Social all participants will provide social value to the community. This could be accomplished
 by providing a percentage of their yield to low income residents, hosting interpretive tours to
 transfer knowledge, or working to meet other needs in the community (education, nutrition,
 etc.)

In the long term, Montgomery County Public Schools could provide a substantial market for the incubator farmers. The Department of Economic Development should work with the school district, the Maryland Department of Education and the incubator to develop policies and procedures that promote using local food in local schools.²⁶

Resources & Financial Impacts:

The County should contribute at least one Business Development Specialist dedicated to assisting with funding and other technical issues described above. If Park & Planning dedicates the land, the non-profit management group will need to work with the County to raise operational and capital funds. Several philanthropic organizations and federal funding programs can be tapped including the USDA's Community Food Project grants and the Kellogg Foundation. In some cases, the land can be used to meet certain matching requirements.

 $^{^{\}rm 26}$ According to Red Wiggler Farm's data.

A-6) Position Montgomery County as an early adopter of smart grid technology

A 21st Century technology enabled, carbon constrained economy requires substantial improvements to our electricity grid infrastructure. The concept known as the "smart grid" improves the traditional grid with a variety of technologies that, among other things, allow consumers to make up-to-theminute decisions on their energy usage, enables the use of renewable energy sources, enhances the quality of power delivery and provides entrepreneurs with opportunities to provide new products and services. In order to advance smart-grid, Montgomery County must do all it can to urge full deployment before the Maryland Public Service Commission (MD-PSC).

On October 27, 2009, the Obama Administration announced 100 grants totaling \$3.4 billion to support smart grid projects throughout the country. The local utilities will receive significant amounts of funding, thanks, in part, to the strategic leadership of Congressman Van Hollen. PEPCO will receive federal stimulus funding totaling \$104 million (approximately half for Montgomery County and half for Prince George's County) to support elements of a smart-grid, including the deployment of advanced metering infrastructure. The stimulus dollars that will benefit BGE's Montgomery County customers will be \$1.34 million.

Recognizing that the eventual goal is to install smart meters throughout the service area, Montgomery County can get a head start on smart metering by selecting communities for advanced installation. A possible candidate might be the Green Business Zone, which would include installing meters at all businesses within the zone. This immediate deployment of smart grid would encourage the timely growth of emerging industries related to smart grid.

The initial costs of smart-grid are large, possibly hundreds of billions nationwide, and approximately \$100 million in Montgomery County for smart or advanced metering infrastructure (AMI) alone. In addition to the "buy-down" of these costs from the federal stimulus grants, these costs will ultimately be paid for from operational savings, and small surcharges will be passed on to consumers.

Quality of service is an important financial factor. The Electric Power Research Center estimates that nationally power quality issues are responsible for \$50 million to \$100 million of economic losses annually. Even more startling are the implications of sudden "disaster" level events such as widespread blackouts which a smarter grid can help avoid. For example, the 2003 "New York" Blackout may have cost the Northeast more from \$7 to \$10 billion in a matter of days.²⁷

Although the Task Force believes smart grid deployment is important on its own, the County should advocate for the inclusion of technologies developed and delivered by Maryland companies, and for the increased availability of subcontracts for local companies. Obviously, the utilities' use of local companies will enhance Montgomery County's green economy.

The Task Force also believes that training opportunities, which would enhance the skills of existing and new utility workers, are important in order to take full advantage of the large investments in smart grid. These training opportunities might be new programs, or simply upgrades of existing programs at Montgomery College and the Universities at Shady Grove.

²⁷ ICF International, 2004

Model Programs:

Smartgrd 2.0, Austin Energy "Utility of the Future" Pecan Street Project – The Pecan Street project is an effort to deploy a comprehensive package of smart-grid technologies including advanced meters, meter data management systems, upgrades to utility energy monitoring and control systems, demand response technologies and programs, and electric vehicle plug/hybrid integration. To accomplish this, Austin has forged a coalition of partners including GE, IBM, intel, Freescale, Cisco, Microsoft, and the Environmental Defense Fund. Ultimately Austin intends to roll the project out to the entire city. http://www.pecanstreetproject.org/

Excel/Boulder "Smart Grid City" – Boulder and the local utility Xcel energy are currently deploying AMI as part of a powerful smart grid vision. The Boulder vision currently focuses on deploying AMI but the ultimate vision includes a comprehensive smart-grid deployment including plug-and-play integration of renewable energy technologies, integration of electric vehicles, and possible BPL with the community's efforts to enhance access to wireless broadband access. The consortium forging the smart-grid city concept include the City of Boulder, Xcel Energy, Montgomery County based Current Group, OSISoft, Gridpoint, SmartSynch, and other participants. http://smartgridcity.xcelenergy.com/index.asp

Montgomery County's Strategic Advantage:

Montgomery County is well positioned to embrace smart-grid, particularly with the federal stimulus grants recently awarded to area utilities. In addition, the County is home to NIST, one of several organizations leading the development of standards necessary to ensure a comprehensive smart-grid. Further, Montgomery County already has firms directly involved in the deployment and installation of smart-grid technologies in the U.S. and abroad. These firms include Currents Group LLC, Eka Systems, and IBM. Local headquarters or offices of key firms active in energy research, planning and program deployment include Lockheed Martin, Sentech, and SAIC. Finally, dozens of County facilities and campuses that may be suitable for pilots of select smart-grid and smart-building technologies by County companies.

Partnerships:

- Maryland Energy Administration/Smart-Grid Maryland²⁹
- Local businesses developing or marketing smart-grid technologies including Currents Group LLC (Germantown), Eka Systems (Germantown), IBM (Gaithersburg)
- Utilities Constellation/BGE, PHI/Pepco, NIST, NOAA

Potential Job Creation:

The Maryland Smart Grid project has estimated that Maryland's deployment of AMI alone could create or retain approximately 4,000 jobs statewide.³⁰

²⁸ http://smartgridcity.xcelenergy.com/index.asp

²⁹ http://www.smartgridmd.org/Pages/default.aspx

 $^{^{30}\,}http://www.smartgridmd.org/events/Documents/MSG\%20Final\%206-8-09.pdf$

A-7) Encourage businesses to achieve Montgomery County Green Certification

The Montgomery County Green Business Certification Program recognizes businesses and other entities that have voluntarily taken steps to protect, preserve, and improve the environment.

The program seeks to spur innovation and environmental responsibility so that forward-looking businesses that embed issues of sustainability into their day to day operations are rewarded for their environmental leadership. As businesses implement policies to gain certification, they will create a market demand for green products and services.

Montgomery County's Strategic Advantage:

Montgomery County ranks second in the number of local small businesses that procure to the federal government. On October 5th, 2009, President Obama issued Executive Order 13514, which, for the first time, established the federal government's policy on the procurement of sustainable goods and services. Given the significant number of government contractors located in Montgomery County and the mandate to demonstrate green practices in federal procurements, the Montgomery County Green Business Certification Program will play an important role in allowing companies to market their sustainability initiatives to government customers. The program will also create an on-going demand for green products and services.

Partnerships:

- Montgomery County Department of Environmental Protection
- Montgomery County Chamber of Commerce
- Montgomery College (training for businesses)

B. What financial assistance can Montgomery County provide or encourage to help the green economy grow?

B-1) Create a Green Enterprise Investment Board

Montgomery County should create a Green Enterprise Investment Board and operate it as a public-private agency to leverage modest government investment in exchange for private equity investments in green businesses. This will enable Montgomery County to become a major center of green technology and energy innovation in the region. A public-private model will leverage the public mission of climate prosperity and economic development, as well as the surety and bonding authority of the County, with the return on investment imperatives of the private investment community. The Task Force believes that this balance of public mission and influence with private reward and investment motivation will contribute significantly to the growth of the local green economy. Outcomes will be measured by assessing a triple bottom line.³¹

This Board will leverage Montgomery County's assets for broader economic, environmental and social benefits by:

- Aiming to raise a \$200M fund for green economy investments using a combination of bond financing, tax incentives and private investment to condition Montgomery County as a leading innovation hub for green business development. The fund level and organization is variable, depending on Montgomery County goals, priorities and direction. For example, for emerging green technologies, more funds may be desirable to secure follow-on rounds of investment. For loans dedicated to energy efficiency improvements, less funds under management may be desirable. In any case, it is recommended that \$1-3 million in County resources be allocated to provide administrative and operating support for the Green Enterprise Investment Board for a minimum of two years but, preferably, five, with private equity investments making up the fund balance.
- Providing structured finance and green investment tax credits analogous to the Maryland biotechnology tax credits³² that stimulated Maryland's biotech sector development. (See Recommendation B-3).
- Sourcing and screening green investment opportunities using seasoned business professionals and thought leaders, such as energy investors, entrepreneurs and scientists. These experts will find investment opportunities, conduct landscape analysis and data-driven market research to properly evaluate proposals, and domain experts will choose which opportunities to fund.
- Working with existing Montgomery County incubators to build green economy capacity, including professional services referrals that advance triple bottom line accounting, access to green economy business models and practices, green market research and competitive landscape analysis, and mentoring opportunities for young businesses;

³¹ Triple bottom line accounting includes benchmark and impact analysis on how well an entity has done in advancing its environmental and social (quality of life) goals. Corporations and regions can account for triple bottom line impact. Examples include McCormick Spice Corporation and Silicon Valley.

 $^{^{32}\,}www.dbed.state.md.us/businessservices/taxincentives/BiotechnologyInvestmentTaxCredit.html$

- Promoting collaboration and alliances with federal, state, local and private investment in green economy opportunities, including the Maryland Clean Energy Center, TEDCO and MEDCO.
- Spurring innovation through a competition similar to the Clean Tech Open,³³ which would prepare competitors to pitch their ideas to potential investors.

Model Jurisdiction:

Precedent may be considered for the following fund management approaches:

- Illinois Ventures a wholly-owned for-profit subsidiary of the land grant public research University of Illinois, subsidized by State operating funds (approximately \$1 million per year), with private funds raised for investment purposes. \$40 million under management. See http://www.illinoisventures.com/
- Connecticut Clean Energy Fund and, CESA, the Clean Energy States Alliance, a non-profit, multi-state clean energy alliance which has invested over \$1.5 billion in loans, grants, rebates and equity since its inception in 2002, and is targeted to invest another \$2 billion through 2015. See http://www.cleanenergystates.org/library/Reports/CESA_Year_One_Report_Final.pdf and http://www.cleanenergystates.org/Publications/CESA_SLICE_Award_CT_CCEF.pdf.

Implementation:

- 1. Work with the state legislature and the governor to secure an appropriation to support the Green Enterprise Investment Board (GEIB) as pilot program of State, to be launched by Montgomery County with funds seeded by Montgomery County (potential to tap into State dollars earmarked for green economic development).
- 2. With administrative funding approval (\$1-3M) from Montgomery County, in partnership with State (DBED, TEDCO, MEA, MCEC), convene Green Enterprise Investment Board to outline funding target levels and management objectives for Montgomery County program (i.e., solar, transportation, biofuels)
- 3. Prepare GEIB Business Plan and raise funds
- 4. Commence investment and program build

³³ www.cleantechopen.com - Clean Tech Open is an organization of leading entrepreneurs, academics, investors and companies, working together to accelerate the development of clean technology startups. In just three years, the Clean Tech Open has awarded over \$2.72 million worth of prizes. From the past three years, 84% of the project's alumni are still viable businesses and have secured more than \$125 million in funding.

B-2) Enhance DED's resources for green technology programs

Until the Green Enterprise Investment Board is up and running, the Department of Economic Development should increase the resources available for green technology companies. Spurring green innovation and providing seed funding are two ways to immediately impact the local green economy.

Specifically, the County should:

1. Augment the Economic Development Fund to include a green technology business fund.

The mission of the Economic Development Fund is to assist private companies who are located, plan to locate, or substantially expand operations in the County. One program in the fund is the Technology Growth Program,³⁴ which is generally in the form of a "no-risk" grant that converts to a loan once pre-negotiated conditions are met.

The Technology Growth Program should set aside financing specifically for green technology companies. At this stage, it is unclear which green technologies will become Montgomery County's niche. As a starting point, the following categories of companies could be eligible for funding³⁵: Air, Water and Waste; Energy Efficiency and Storage; Renewable Energy; and Green Building Technology.

To begin the program, the following criteria could be used:

- Is this green technology/product scientifically valid?
- What is the economic, environmental and social impact of the technology/product?
- Can the technology/product be commercially available in a relatively short amount of time?
- Has the company leveraged its investments and kept risk within acceptable bounds?
- Does the technology/product have the potential to be transferred to other processes, facilities, or industry sectors?
- Qualifications of the business owner and quality of the business plan

2. Spur green innovation through competition

A hallmark of the green economy is that it is accessible to everyone. Unlike biotech or other advanced technologies, the value of green technologies can be easily understood and incorporated into everyday life. It is likely, then, that green innovations may come from non-traditional sources—perhaps a garage or home office—as opposed to a well-appointed lab. The County should promote innovation by organizing a "Green Innovators" program.

The Green Innovators program is based on the Pittsburgh Innovates and Cincinnati Innovates projects, ³⁶ but adds a green twist. The purpose of Pittsburgh Innovates is to "leverage web-based media to increase awareness of innovation, technology and its connections to the region." In Cincinnati, grants are given to eligible entrants from the 15-county metropolitan statistical area.

³⁴ In FY10, the available funding for TGP applications is \$400,000.

³⁵ Based on the "Clean Tech Open" categories. The Clean Tech Open is under the fiscal and administrative sponsorship of Acterra: Action for a Sustainable Earth, a California 501(c)3 non-profit public benefit corporation.

³⁶ www.cincinnatiinnovates.com

Like the model programs, Montgomery County's competition would be web-based, and entrants would submit a brief description of their green innovation, pictures, videos and/or sketches. Visitors to the web site would be an integral part of the contest, and would vote for their favorite entry. Awards would include a People's Choice award, based on the public's online votes.

In Cincinnati, a law firm sponsored a Patent Prize of pro-bono legal services for patent work. Montgomery County's sponsorships, which could range from the \$1,000 for student innovations to \$25,000 as the top prize, will provide new entrepreneurs with funding, and allow the sponsors access to a hip, fun on-line way to reach thousands of visitors they might not normally target. In addition to spurring innovation, the project also ends up as a networking event for innovators and funders.

Strategic Advantage:

- 1. The County's existing EDF programs are well known and well regarded in the business community. With an appropriation, the green technology program could be implemented almost immediately.
- 2. Cincinnati Innovates has a platform that could easily be tailored to fit Montgomery County's needs.

Financial Impacts:

- 1. The EDF program would require an additional appropriation to fund the grant/loans. In addition to the revenue needed to fund the program, the County will need additional funding for due diligence associated with the selection of the awardees.
- 2. The Green Innovators' awards could be raised from the private sector.

Partnerships:

- Universities
- TEDCO
- Tech Council of Maryland
- Private Sector

B-3) Encourage private investment in green technology through tax incentives

In order to promote investments in local green technology companies, Montgomery County should establish a local tax credit (against income, real or personal property taxes) for investors who invest in Montgomery County-based green tech companies.

Model Program:

The Maryland Biotechnology Investment Tax Credit provides income tax credits for investors in qualified Maryland biotechnology companies to offer incentives for investment in seed and early stage, privately held biotech companies. The value of the credit is equal to 50% of an eligible investment made in a qualified Maryland biotechnology company during the taxable year. The maximum amount of the credit cannot exceed \$250,000 for investors.

Strategic Advantages:

The State of Maryland has a proven track record of using investment tax credits to leverage private investment in early stage biotech companies. Montgomery County is currently developing its own biotechnology investment tax credit program, which will provide a model for a parallel green technology local tax credit program. Alternatively, a single biotech/clean tech investment tax credit program could be established through one piece of legislation/program.

Implementation:

- Work with the Office of the County Executive, Department of Finance, Office of Management and Budget and Office of the County Attorney to draft legislation and a fiscal impact statement.
- 2. Enlist local biotech companies that have benefited from the MD biotech investment tax credit to educate decision makers on the potential direct and indirect benefits of the tax for the green sector.
- 3. Coordinate funding for the tax credit in appropriate fiscal year budget, and develop the necessary administrative procedures.

Resources and Financial Impacts:

Funds will need to be included in the County budget for the tax credit program (as a point of reference, FY10 funding for the MD Biotech Investment Tax Credit is \$6 million). Staff resources will be needed to develop the legislation and regulatory/administrative procedures, and to certify eligible investments and administer the tax credit program.

Partnerships:

- State Comptroller
- Tech Council of Maryland and chambers of commerce (for outreach on the program)
- Angel investors and VC funds

C. How can the workforce be trained for the green economy?

In October 2009, Montgomery County's unemployment rate was 5.4%, which is more than double the local unemployment rates associated with the recessions in the 1980s and 1990s.³⁷ The construction industry has been particularly hard hit, with unemployment nearing 20% nationally.³⁸ The growth of the green economy will provide relief to unemployed construction workers, by providing job opportunities that are based on contractors' existing skill sets. Training on green technologies, the construction of high performance buildings and other green economy-based best practices will propel the transition from traditional trades to "green" trades.

C-1) Expand "green collar" education/training programs at Montgomery County Public Schools, Montgomery College, Universities at Shady Grove, and other professional training centers

Governor Martin O'Malley's goal is to create or preserve 100,000 green jobs in Maryland by 2015.³⁹ These green jobs are not identified with a single occupation, but rather are cross-cutting and generally augment existing skill sets. This means that many existing jobs will become greener by employing different materials, technology, or methods. For example, as storm water becomes increasingly challenging to mitigate, the fields of landscape architecture, law and technology will intersect in new ways, forcing designers, attorneys and manufacturers to develop new skills to create better, greener solutions.

Through its workforce investment board and the Montgomery County Public Schools career advisory groups, Montgomery County should reinforce its partnerships with various higher education industry advisory groups, and the private sector and commit to identifying and address the changing labor force needs of the green economy. These groups should work together and, if necessary, create new mechanisms for addressing skill requirements, career pathways, and educational and training offerings.

On-the-job training:

Linking classroom training with real world experience is increasingly important. Weatherization training is a prime example of the need to have strong field training/apprenticeship/mentoring, in addition to classroom programs. In addition, a job such as weatherization might serve as a career pathway, leading to more advanced and better paying work in HVAC mechanical upgrades, home performance improvements, building commissioning, and green building construction. Furthermore, these positions could prepare individuals for other work in fields such as solar, wind or geothermal energy.

³⁷ US Dept. of Labor – Bureau of Labor Statistics: www.bls.gov

³⁸ The Associated General Contractors of America

http://newsletters.agc.org/datadigest/2009/12/04/construction-employment-november/#more-628

³⁹ www.governor.maryland.gov/speeches/090206.asp

C-2) Expand pre-employment literacy training programs

There has been much anticipation regarding employment opportunities that will flow from the federal funding of weatherization programs across the country. Like other green workforce development jobs that are laborer/technician based, weatherization requires literacy or basic English skills. A recent weatherization analysis by the Annie E. Casey Foundation revealed that most contractors believe that, at a minimum, a 9th grade educational level is necessary for entry-level weatherization jobs. ⁴⁰ The report showed that with literacy-based pre-employment training, potential employees below an 8th or 9th grade literacy level could develop skills that would make them eligible for entry-level weatherization jobs. However, due to the lack of pre-employment training programs currently available, "a low-skilled, low-literacy person, unless they are networked with not only the construction field but specifically with the agencies or contractors themselves, will not gain employment in weatherization."

According to a recent report by the National Center for Education Statistics, Montgomery County's "below basic" literacy rate is 11%. ⁴² In order to match unemployed low-literacy residents with weatherization jobs, and other green economy jobs, ⁴³ Montgomery County and its partners must take special care to ensure that literacy is a major component of existing training programs, or develop a pre-employment training program focused on literacy.

Partners:

- Montgomery County Workforce Investment Board
- Montgomery County Literacy Council
- Montgomery College
- Universities at Shady Grove
- Maryland Department of Labor, Licensing and Regulation
- Private sector

⁴⁰ www.governor.maryland.gov/speeches/090206.asp

⁴¹ Ibic

⁴² The National Center for Education Statistics defines "below basic" literacy as having "no more than the most simple and concrete literacy skills." http://nces.ed.gov/Naal/perf_levels.asp

⁴³ The County's MS-4 permit implementation will also create a demand for entry-level workers who have basic literacy skills. Please see recommendation A-2 for addition information.

D. What steps should be taken to build public support for green economic activity?

In order to be identified as one of the nation's leading engines of the green economy, Montgomery County must commit the resources necessary to launch an aggressive green branding campaign. This will include marketing, communications, media, community relations and public affairs. Other jurisdictions have done a great job of publicizing their "greenness". While Montgomery County has been bold on biotech—regionally, nationally and internationally—targeted communications regarding its sustainability initiatives have been much more reserved. The time is now for the County to publicize its green achievements, and to announce its bold initiatives for prospering in the green economy.

D-1) Modify existing County marketing and outreach activities to place greater emphasis on green activities

To begin, the County should:

- Immediately launch a website featuring the continuum of public and private green activities in Montgomery County. The website should include existing companies and initiatives as well as goals related to this Task Force's recommendations;
- Establish an industry roundtable that focuses on green businesses. The main goal of this
 initiative is to provide a forum where green businesses can network, exchange information
 and learn from speakers about new trends in the industry, best practices, market analyses, new
 research, financing and other relevant topics. Better connectivity will also lead to an increase
 in business between the local players. This initiative will be led by the private sector, with local
 government in a supportive role;
- Assemble group outreach campaigns, where certain green topics are highlighted (renewable energy, green products, etc.);
- Promote the County's Green Certified Businesses to federal agencies;
- Schedule an editorial board meeting with business leaders and state and federal delegates to discuss the greening of Montgomery County; and
- Task Force representatives should meet with the County's congressional delegation to help build support for the recommendations in this report and to leverage federal funding, coordinate local and federal policies and develop partnerships that will grow the local green economy.

D-2) Establish a green marketing council to brand Montgomery County as "green" and develop associated marketing materials.

While the County should research comparable markets, like Denver, Portland, Austin, Silicon Valley and Arlington, Montgomery County needs its own unique marketing approach and brand. Equally important, the County needs to make sure that its green brand is of high quality. That is to say, community leaders need to substantiate "MontgomeryGreen" with progressive policies and actions that nurture the green economy and a sustainable way of life. ⁴⁴ The County should let people know that in terms of sustainability and the green economy, it: 1) has accomplished a lot; 2) recognizes that more needs to be done; 3) has established goals; and 4) is measuring its progress.

The green marketing council should put together a distinctive name for the branding campaign and a graphically appealing logo and slogan. These powerful message points will be easy for community and business leaders to assert, in all settings. And, of course, the Department of Economic Development's marketing arsenal will be supplemented with new, ready-to-go marketing materials, including a centerpiece brochure, fact sheets, testimonials, DVD, visual presentations and posters.

Examples include:

- Going Green in Montgomery County. It will save you money!
- Going Green in Montgomery County. Good for your business!
- Going Green in Montgomery County. Doing the right thing has never been easier!
- Going Green in Montgomery County. Spending a little now pays big dividends later!

D-3) Launch an aggressive earned media campaign

The Department of Economic Development should put together an all-encompassing database aimed at mass media, business trade, opinion makers, etc. in regional and target markets. With this information, the County can accomplish several things:

- Communicate green progress via a monthly e-newsletter aimed at media and decision-makers;
- Highlight Montgomery County's Green Certified Businesses
- Develop strong print and electronic ads, seek donated space from Comcast, Gazette and PSAs with local radio and TV;
- Undertake a strategically driven media relations effort, looking to place feature stories in major publications; need media plan; and
- Meet with editorial boards touting the County as a great place for green development opportunity.

⁴⁴ The Task Force cautions against "green washing," a term that is often used to describe a company that may "spin" the claims of a product being green.

D-4) Take advantage of the County's strategic location

As mentioned throughout this report, part of Montgomery County's competitive advantage is its location, which will draw people to large and unique special events. The County should capitalize on its location by:

- Organizing conferences on cutting edge topics with well-recognized experts, business and political leaders;
- Unveiling of market-ready green technologies in conjunction with federal agencies and university partners;
- Hosting summits to spotlight the "Green Giants" of the county business community (Lockheed, Calvert, Marriott, Tower Companies, Honest Tea, Discovery, Safeway, etc.)
- Holding periodic briefings on urgent issues like green federal procurement opportunities, or venture financing;
- Market Montgomery County's Green Business Certification Program as the industry standard in achieving sustainable best business practices; and
- Developing CEO training programs, in concert with chambers of commerce and other business partners.

E. How should the growth of the green economy be measured?

E-1) Identify the County's existing green economy inventory

Green Business Inventory: It is important for Montgomery County to develop an inventory of its green industry cluster. The Department of Economic Development should start the process by categorizing companies as follows:

- green technology research and development;
- organic farms;
- green products/services (including financial investment firms); and
- green training organizations.

In addition, the County should track: a) the number of Montgomery County Green Certified Businesses; b) non-profits or associations dedicated to the environment; c) existing green jobs and d) the federal procurements awarded to local contractors under the "Acquisition of Green Products and Services Policy."

As previously noted, there is no comprehensive source for this information. Therefore, the County might begin by using the anecdotal data contained in the "Benchmarks" section of this report, and, starting from that point, build the database by searching relevant patent databases and research grant awards, surveying its local businesses, and reviewing green business certification data, such as the Montgomery County Green Business Certification Program⁴⁵ or Cradle to Cradle certification.

This information should be entered into the Department of Economic Development's existing Salesforce database, which now contains a "green" designation field. The Salesforce database is used to track local companies and will be useful in creating reports and other information related to the green economy.

The County should also consider performing a regional inventory of green businesses, which would help determine Montgomery County's status within the Washington D.C. metropolitan area's green economy. This regional perspective could help the County further define its competitive advantages and help target specific areas in which to invest resources.

⁴⁵ Montgomery County's green business certification program is a voluntary program designed to recognize local companies that have made significant strides in reducing their ecological footprint.

E-2) Identify existing opportunities available to green businesses

Green Opportunities: The County should quantify the current "opportunities" available to facilitate the creation, development and expansion of green businesses. As a starting point, DED should track the following:

- the availability of public funds (grants, green tax incentives);
- research and development support (demonstration space, incubators, mentoring);
- the amount of venture capital available for green businesses;
- the amount of agricultural land available for organic farms;
- local market demand for green products; and
- education and training.

If possible, the County might consider tracking the availability of green networking opportunities, as well. This could include conferences, newsletters and other forms of outreach specific to the green industry cluster.

E-3) Utilize the triple bottom line in measuring the growth of the County's green economy

Once the baselines described in recommendations E-1 and E-2 are established, the County will be able to track its progress, identify trends and make well-informed policy decisions that will grow its green industry cluster.

DED can use the triple bottom line approach to help analyze its progress in growing the green economy. The Task Force is not equipped to do this analysis, but did identify some examples of the types of data that would be useful. The relevant data include, but are not limited to:

- Economic Tax revenues created by green businesses; new green patents; job creation; private investments in green enterprises
- Environmental Greenhouse gas reductions, energy savings; acreage used for organic farming; renewable energy installations
- Social businesses that improve their surrounding communities; green training programs

Because most companies in the green economy will have economic, environmental and social benefits, the County will need to determine how to best to present and use the data.

Next Steps:

The Departments of Economic Development and Environmental Protection should take the lead in developing an implementation strategy for the Task Force's recommendations. The strategy should include action items for short-term and long-term projects. In addition, the strategy should identify the public/private partnership opportunities that will be critical to the growth of the green economy.

